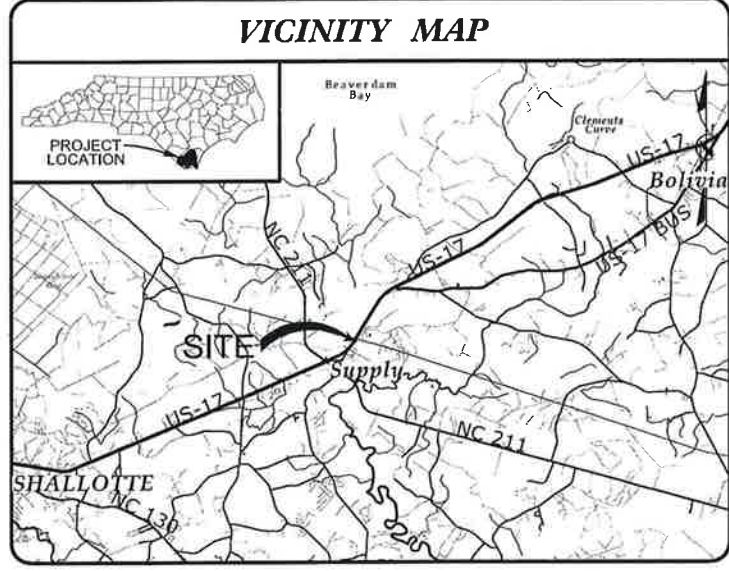


09/28/09
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erardon

CONTRACT: 34625.2.43
TIP PROJECT: R-4436CD

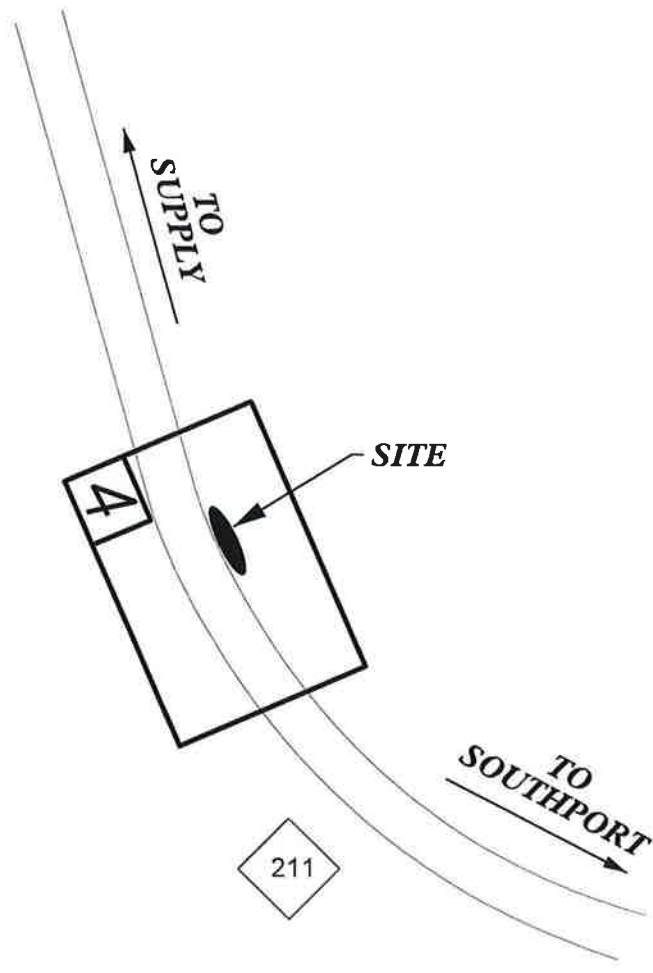
See Sheet 1-A For Index of Sheets
See Sheet 1-B For Conventional Plan Sheet Symbols



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

LOCATION: ALONG NC HWY 211
TYPE OF WORK: GRADING, STORM DRAINAGE, EROSION CONTROL, AND SEEDING & MULCHING



| STATE | STATE PROJECT REFERENCE NO. | SHEET NO. | TOTAL SHEETS |
|-----------------|-----------------------------|-------------|--------------|
| N.C. | R-4436CD | 1 | 11 |
| STATE PROJ. NO. | F.A. PROJ. NO. | DESCRIPTION | |
| 34625.2.43 | STP-0211(39) | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |



SCALE VARIES
SEE PLANS

NCDOT CONTACTS:
MATT S. LAUFFER, PE
PROJECT MANAGER-
HIGHWAY STORMWATER
MANAGEMENT PROGRAM

Prepared in the Office of:
WITHERS & RAVENEL
ENGINEERS | PLANNERS | SURVEYORS
111 MacDermott Blvd., Cary, North Carolina 27513 Tel: 919-459-1119 www.withersravenel.com License No. C-08512

2006 STANDARD SPECIFICATIONS

LETTING DATE:

WILLIAM E LEE, PE
PROJECT ENGINEER

HUNTER FREEMAN, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

7-21-11

W Lee
SIGNATURE: P.E.

| REVISIONS SCHEDULE | | |
|--------------------|-----------------------------|----------|
| NO. | DESCRIPTION | DATE |
| 1 | 30% DESIGN SUBMITTAL | 03/10/11 |
| 2 | 90% DESIGN SUBMITTAL | 04/19/11 |
| 3 | 95% DESIGN SUBMITTAL | 06/28/11 |
| 4 | 100% FINAL DESIGN SUBMITTAL | 07/21/11 |

HYDRAULICS



2006 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated July 18, 2006 are applicable to this project and by reference hereby are considered a part of these plans:

| STD.NO. | TITLE |
|-------------------------------|---|
| DIVISION 2 - EARTHWORK | |
| 200.02 | Method of Clearing - Method II |
| DIVISION 3 - PIPE CULVERTS | |
| 300.01 | Method of Pipe Installation - Method 'A' |
| DIVISION 8 - INCIDENTALS | |
| 838.01 | Concrete Endwall for Single & Double Pipe Culverts - 15" thru 48" Pipe 90° Skew |
| 840.22 | Drop Inlet Frame and Grates |
| 876.03 | Drainage Ditches with Class 'A' Rip Rap |
| DIVISION 16 - EROSION CONTROL | |
| 1605.01 | Temporary Silt Fence |
| 1606.01 | Special Sediment Control Fence |
| 1607.01 | Gravel Construction Entrance |
| 1632.03 | Rock Inlet Sediment Trap Type C |
| 1633.01 | Temporary Rock Silt Check Type "A" |

GENERAL NOTES

GRADING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

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Note: Not to Scale

*S.U.E. = Subsurface Utility Engineering

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

| | |
|-------------------------------------|--|
| State Line | |
| County Line | |
| Township Line | |
| City Line | |
| Reservation Line | |
| Property Line | |
| Existing Iron Pin | |
| Property Corner | |
| Property Monument | |
| Parcel/Sequence Number | |
| Existing Fence Line | |
| Proposed Woven Wire Fence | |
| Proposed Chain Link Fence | |
| Proposed Barbed Wire Fence | |
| Existing Wetland Boundary | |
| Proposed Wetland Boundary | |
| Existing Endangered Animal Boundary | |
| Existing Endangered Plant Boundary | |

BUILDINGS AND OTHER CULTURE:

| | |
|-------------------------------|--|
| Gas Pump Vent or U/G Tank Cap | |
| Sign | |
| Well | |
| Small Mine | |
| Foundation | |
| Area Outline | |
| Cemetery | |
| Building | |
| School | |
| Church | |
| Dam | |

HYDROLOGY:

| | |
|------------------------------------|--|
| Stream or Body of Water | |
| Hydro, Pool or Reservoir | |
| Jurisdictional Stream | |
| Buffer Zone 1 | |
| Buffer Zone 2 | |
| Flow Arrow | |
| Disappearing Stream | |
| Spring | |
| Wetland | |
| Proposed Lateral, Tail, Head Ditch | |
| False Sump | |

RAILROADS:

| | |
|--------------------|--|
| Standard Gauge | |
| RR Signal Milepost | |
| Switch | |
| RR Abandoned | |
| RR Dismantled | |

RIGHT OF WAY:

| | |
|--|--|
| Baseline Control Point | |
| Existing Right of Way Marker | |
| Existing Right of Way Line | |
| Proposed Right of Way Line | |
| Proposed Right of Way Line with Iron Pin and Cap Marker | |
| Proposed Right of Way Line with Concrete or Granite Marker | |
| Existing Control of Access | |
| Proposed Control of Access | |
| Existing Easement Line | |
| Proposed Temporary Construction Easement | |
| Proposed Temporary Drainage Easement | |
| Proposed Permanent Drainage Easement | |
| Proposed Permanent Utility Easement | |
| Proposed Temporary Utility Easement | |
| Proposed Permanent Easement with Iron Pin and Cap Marker | |

ROADS AND RELATED FEATURES:

| | |
|----------------------------|--|
| Existing Edge of Pavement | |
| Existing Curb | |
| Proposed Slope Stakes Cut | |
| Proposed Slope Stakes Fill | |
| Proposed Wheel Chair Ramp | |
| Existing Metal Guardrail | |
| Proposed Guardrail | |
| Existing Cable Guiderail | |
| Proposed Cable Guiderail | |
| Equality Symbol | |
| Pavement Removal | |
| VEGETATION: | |
| Single Tree | |
| Single Shrub | |
| Hedge | |
| Woods Line | |
| Orchard | |
| Vineyard | |

EXISTING STRUCTURES:

| | |
|--|--|
| MAJOR: | |
| Bridge, Tunnel or Box Culvert | |
| Bridge Wing Wall, Head Wall and End Wall | |
| MINOR: | |
| Head and End Wall | |
| Pipe Culvert | |
| Footbridge | |
| Drainage Box: Catch Basin, DI or JB | |
| Paved Ditch Gutter | |
| Storm Sewer Manhole | |
| Storm Sewer | |

UTILITIES:

| | |
|-------------------------------------|--|
| POWER: | |
| Existing Power Pole | |
| Proposed Power Pole | |
| Existing Joint Use Pole | |
| Proposed Joint Use Pole | |
| Power Manhole | |
| Power Line Tower | |
| Power Transformer | |
| U/G Power Cable Hand Hole | |
| H-Frame Pole | |
| Recorded U/G Power Line | |
| Designated U/G Power Line (S.U.E.*) | |

TELEPHONE:

| | |
|---|--|
| Existing Telephone Pole | |
| Proposed Telephone Pole | |
| Telephone Manhole | |
| Telephone Booth | |
| Telephone Pedestal | |
| Telephone Cell Tower | |
| U/G Telephone Cable Hand Hole | |
| Recorded U/G Telephone Cable | |
| Designated U/G Telephone Cable (S.U.E.*) | |
| Recorded U/G Telephone Conduit | |
| Designated U/G Telephone Conduit (S.U.E.*) | |
| Recorded U/G Fiber Optics Cable | |
| Designated U/G Fiber Optics Cable (S.U.E.*) | |

WATER:

| | |
|-------------------------------------|--|
| Water Manhole | |
| Water Meter | |
| Water Valve | |
| Water Hydrant | |
| Recorded U/G Water Line | |
| Designated U/G Water Line (S.U.E.*) | |
| Above Ground Water Line | |

TV:

| | |
|--|--|
| TV Satellite Dish | |
| TV Pedestal | |
| TV Tower | |
| U/G TV Cable Hand Hole | |
| Recorded U/G TV Cable | |
| Designated U/G TV Cable (S.U.E.*) | |
| Recorded U/G Fiber Optic Cable | |
| Designated U/G Fiber Optic Cable (S.U.E.*) | |

GAS:

| | |
|-----------------------------------|--|
| Gas Valve | |
| Gas Meter | |
| Recorded U/G Gas Line | |
| Designated U/G Gas Line (S.U.E.*) | |
| Above Ground Gas Line | |

SANITARY SEWER:

| | |
|--|--|
| Sanitary Sewer Manhole | |
| Sanitary Sewer Cleanout | |
| U/G Sanitary Sewer Line | |
| Above Ground Sanitary Sewer | |
| Recorded SS Forced Main Line | |
| Designated SS Forced Main Line (S.U.E.*) | |

MISCELLANEOUS:

| | |
|--|--|
| Utility Pole | |
| Utility Pole with Base | |
| Utility Located Object | |
| Utility Traffic Signal Box | |
| Utility Unknown U/G Line | |
| U/G Tank; Water, Gas, Oil | |
| A/G Tank; Water, Gas, Oil | |
| U/G Test Hole (S.U.E.*) | |
| Abandoned According to Utility Records | |
| End of Information | |

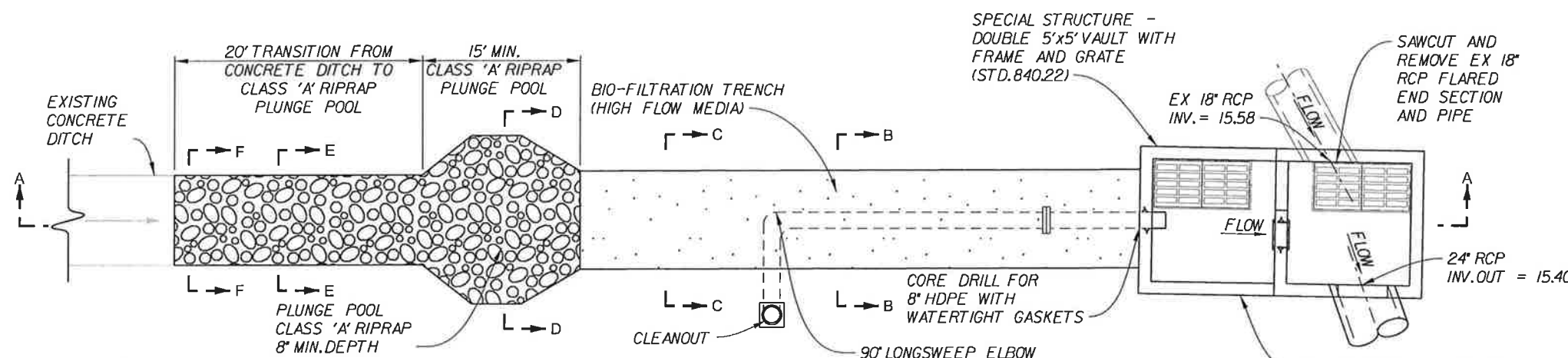
BIO-FILTRATION TRENCH DETAILS

PROJECT REFERENCE NO.
R-4436CD

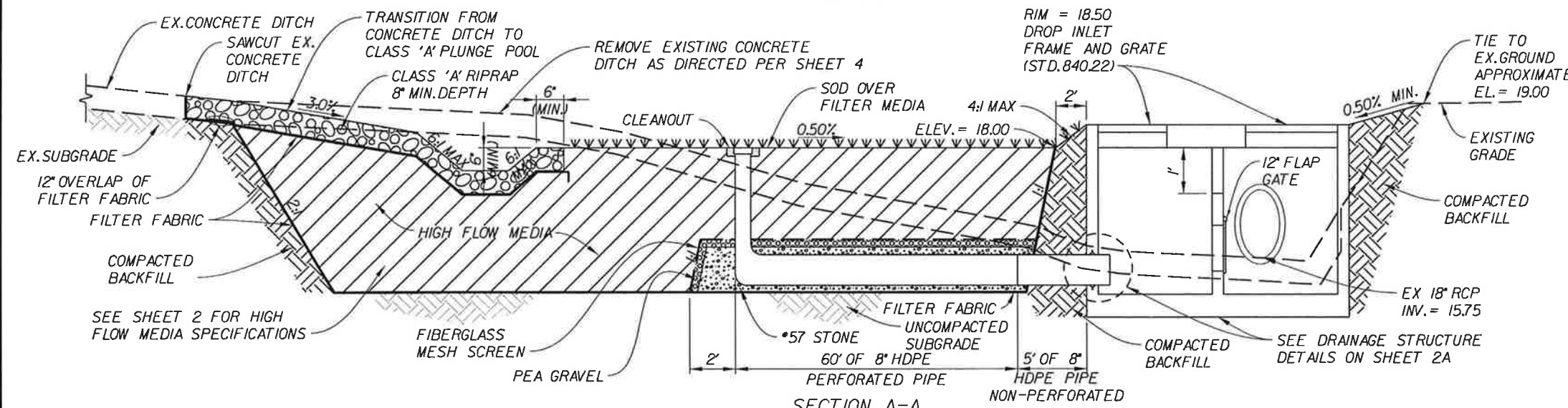
SHEET NO.
2

HYDRAULICS
ENGINEER
7-21-11
NORTH CAROLINA
PROFESSIONAL
SEAL
19572
WILLIAM E. LEE

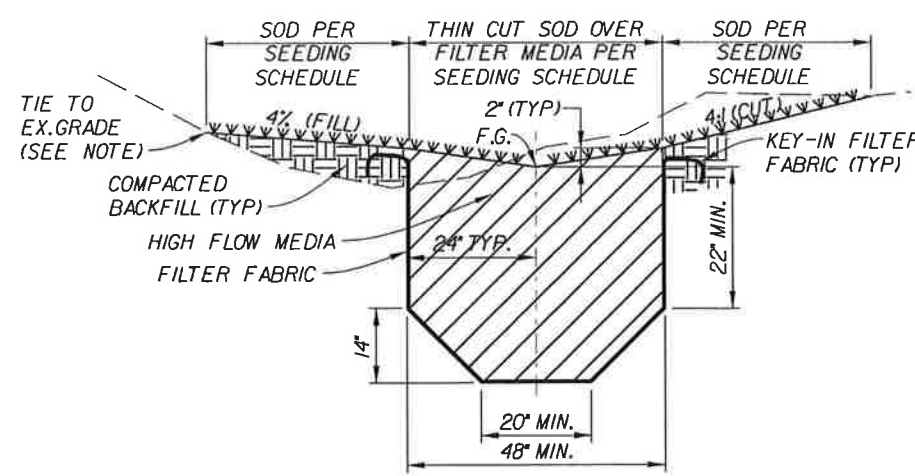
| EST. BILL OF MATERIALS FOR BIO-FILTRATION TRENCH | |
|---|--|
| SOD - 399 SY | |
| CLASS 'A' RIPRAP, HIGH FLOW MEDIA, PEA GRAVEL, AND #57 STONE - SEE SHEET 3A | |
| 8" HDPE PERFORATED UNDERDRAINS - 60 LF | |
| 8" HDPE SOLID PIPE - 20 LF | |
| 8" CLEANOUT - 1 EA | |
| 12" DIP 9" SPOOL - 1 EA | |
| 12" FLAP GATE - 1 EA | |
| WATER TIGHT GASKETS - 2 EA | |
| FILTER FABRIC (TYPE 2, NON-WOVEN) - 161 SY | |
| FIBERGLASS MESH SCREEN - 29 SY | |



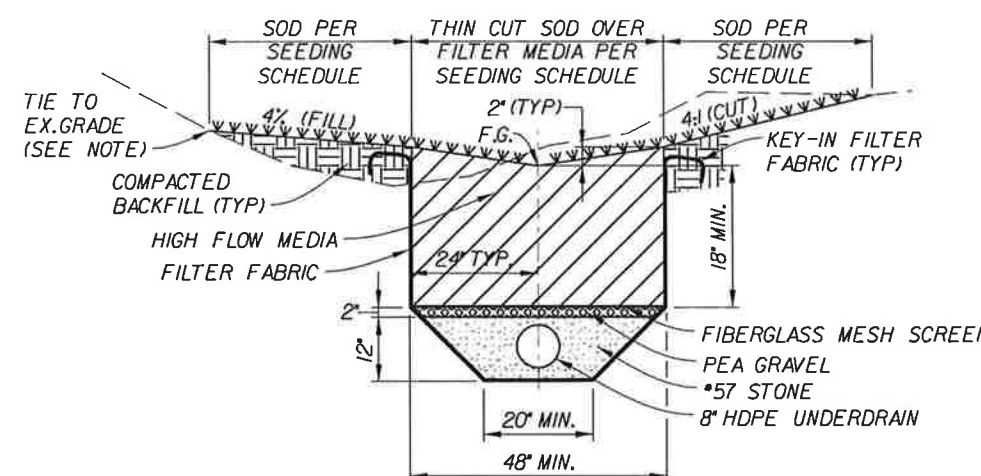
PLAN VIEW
SCALE: NTS



SECTION A-A
SCALE: NTS



TRENCH SECTION C-C
SCALE: NTS
STA 14+42.00 TO STA 14+75.00



TRENCH SECTION B-B
SCALE: NTS
STA 14+75.00 TO STA 15+41.00

HIGH FLOW SOIL MEDIA

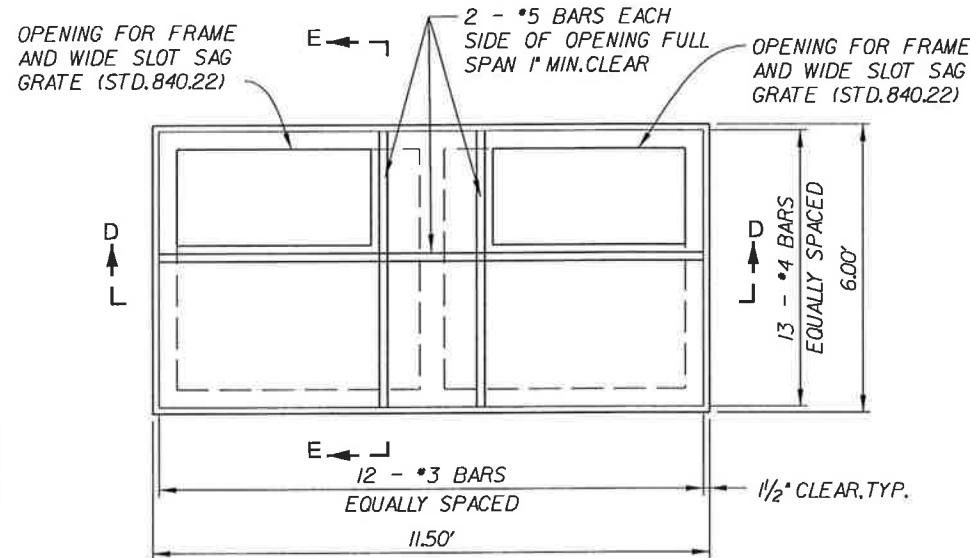
MEDIA WILL BE DELIVERED ON SITE BY OTHERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER STORAGE AND INSTALLATION AS DESCRIBED IN THE PROJECT SPECIAL PROVISIONS.

THE HIGH FLOW FILTER MEDIA IS SPECIALLY DESIGNED TO OPTIMIZE THE CAPTURE AND REMOVAL OF FECAL COLIFORM BACTERIA FROM URBAN RUNOFF THROUGH THE USE OF A HIGH PERFORMANCE PEAT /SAND FILTER MEDIA. THE MEDIA SUPPORTS MICROBIOLOGICAL ACTIVITY THAT DESTROYS FECAL BACTERIA WHILE ALSO CAPTURING NUTRIENTS FROM STORMWATER RUNOFF TO SUPPORT PLANT LIFE WHILE ALLOWING RUNOFF TO FLOW THROUGH THE MEDIA LAYERS AT A HIGH RATE.

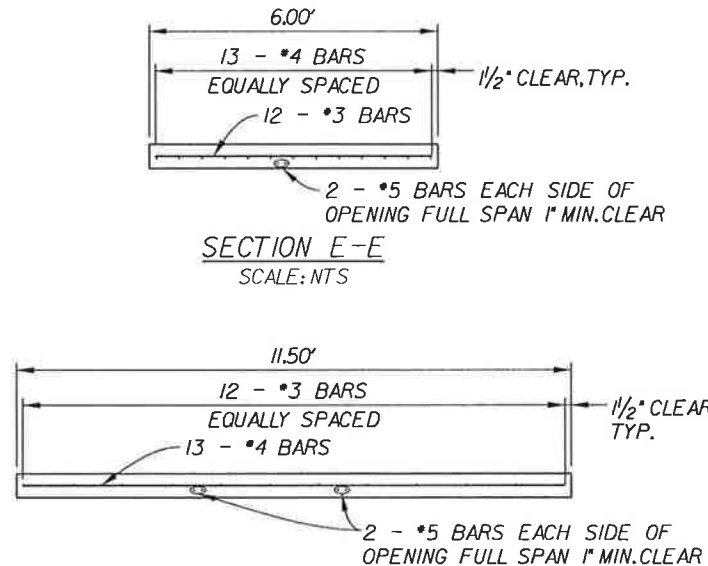
THE MEDIA PROVIDED FOR THIS PROJECT WILL MEET THE FOLLOWING SPECIFICATIONS

- PEAT MOSS 15% BY VOLUME
 - LISTED BY ORGANIC MATERIALS REVIEW INSTITUTE
 - 100% NATURAL PEAT (NO COMPOSTED, SLUDGE, YARD OR LEAF WASTE)
 - TOTAL CARBON >85%
 - CARBON TO NITROGEN RATIO 15:1 TO 23:1
 - LIGNIN CONTENT 49% TO 52%
 - HUMIC ACID >18%
 - PH 6.0 TO 7.0
 - MOISTURE CONTENT 30% TO 50%
 - 95% TO 100% PASSING 2.0MM SIEVE
 - > 80% PASSING 1.0MM SIEVE
- POLLUTANT REMOVAL MINIMAL PERFORMANCE
 - TSS 80%
 - TOTAL NITROGEN 43%
 - HEAVY METALS 58-82%
 - PHOSPHORUS 50 %
 - BACTERIA > 95%
- GENERAL SAND PARTICLE SIZE DISTRIBUTION NECESSARY TO SUPPORT FLOW RATES OF > 50 INCHES / HOUR.
 - SAND FINE <5%
 - SAND MEDIUM 10%- 15%
 - SAND COARSE 15% TO 25%
 - SAND VERY COARSE 40 % TO 45%
 - GRAVEL 10% TO 20%
 - CLAY /SILTS < 2%

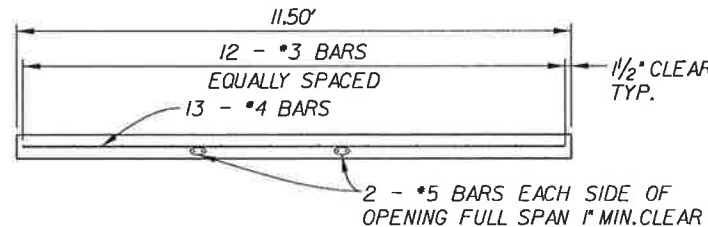
BIO-FILTRATION TRENCH DETAILS



TOP SLAB - PLAN
SCALE: NTS



SECTION E-E
SCALE: NTS



SECTION D-D
SCALE: NTS

DRAINAGE STRUCTURE NOTES:

CONTRACTOR TO SUBMIT SEALED ENGINEERING DRAWINGS OF THE DRAINAGE STRUCTURE FOR REVIEW AND APPROVAL.

USE CLASS "B" CONCRETE THROUGHOUT.

OPTIONAL CONSTRUCTION - MONOLITHIC POUR 2" KEYWAY OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.

USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.

IF REINFORCING CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STANDARD DRAWING 840.00.

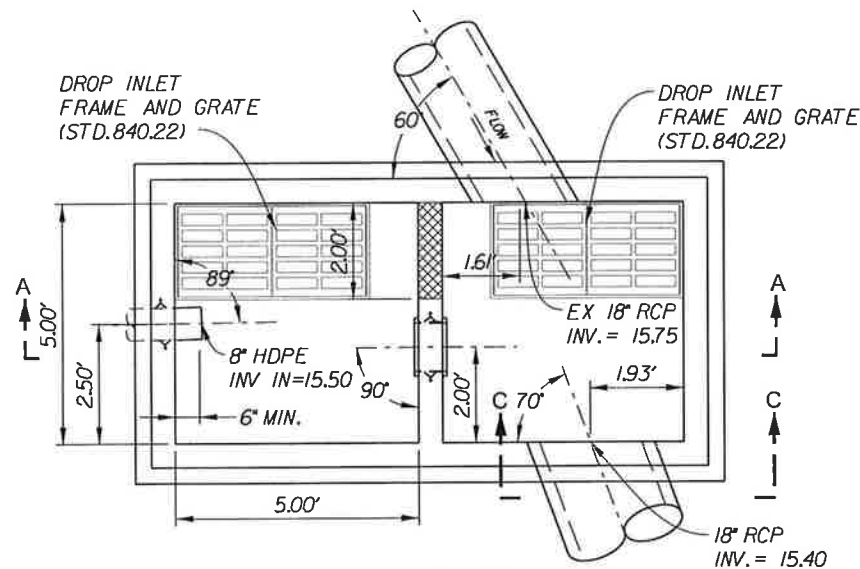
INSTALL 2" WEEPHOLES AS DIRECTED BY THE ENGINEER.

INSTALL STONE DRAINS, OF A MINIMUM OF 1 CUBIC FOOT OF NO. 78M STONE IN A POROUS FABRIC BAG OR WRAP, AT EACH WEEP HOLE OR AS DIRECTED BY THE ENGINEER.

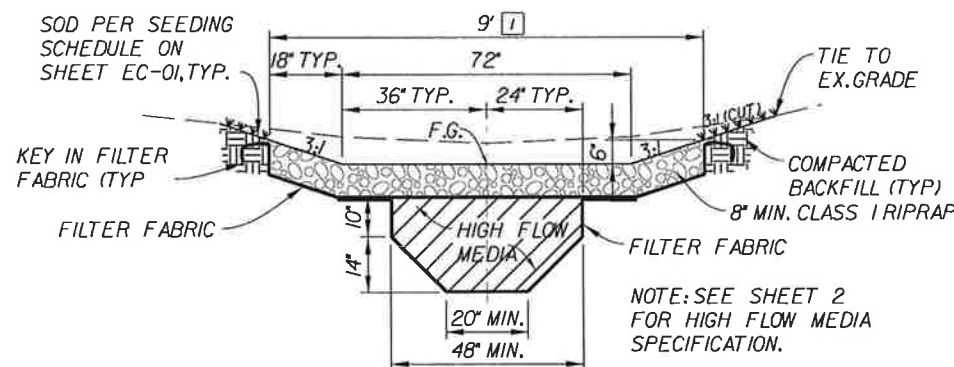
CHAMFER ALL EXPOSED CORNERS 1".

SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.

PROJECT REFERENCE NO. R-4436CD SHEET NO. 2-A

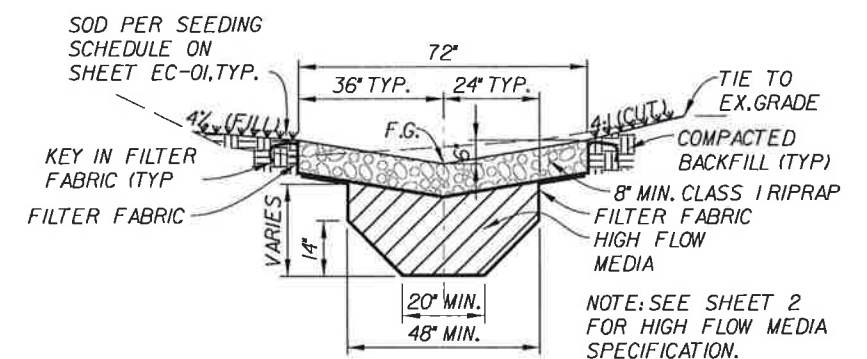


DRAINAGE STRUCTURE - PLAN
SCALE: NTS



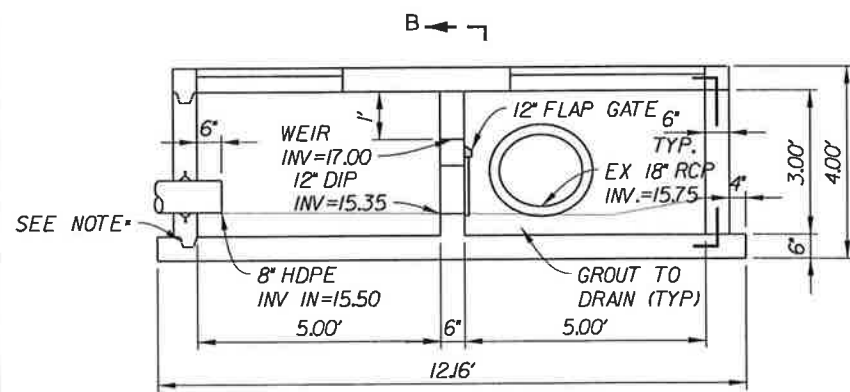
TRENCH SECTION D-D
SCALE: NTS

STA 14+34.00 TO STA 14+38.00
1' TRANSITION FROM STA 14+38.00, 9' WIDTH TO STA 14+42.00, 4' WIDTH



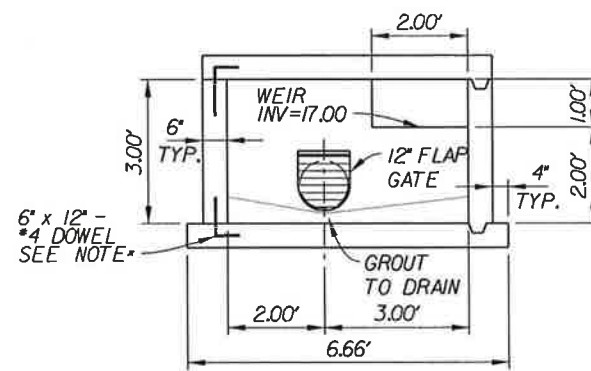
TRENCH SECTION E-E
SCALE: NTS

STA 14+09.00 TO STA 14+34.00

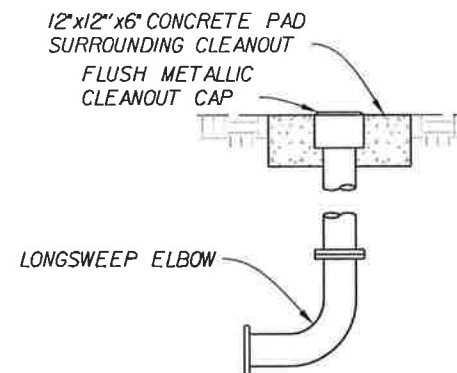


SECTION A-A
SCALE: NTS

* SEE DRAINAGE STRUCTURE NOTES



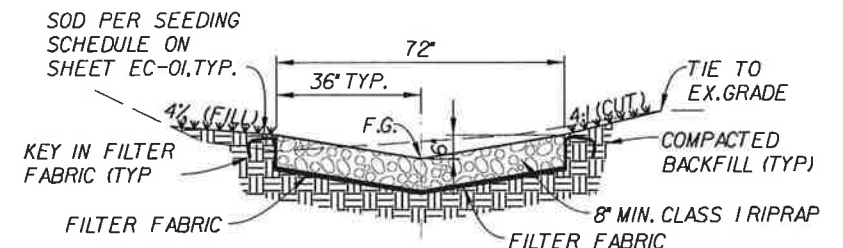
SECTION B-B
SCALE: NTS



NOTE: MATERIAL SHALL BE NON-PERFORATED HDPE.

CONCRETE PAD TO BE FLUSH WITH FINISHED GRADE OR 1" BELOW MAX. FINISH GRADE

CLEANOUT DETAIL
SCALE: NTS



TRENCH SECTION F-F
SCALE: NTS

STA 14+04.00 TO STA 14+09.00

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8/17/23


REVISIONS

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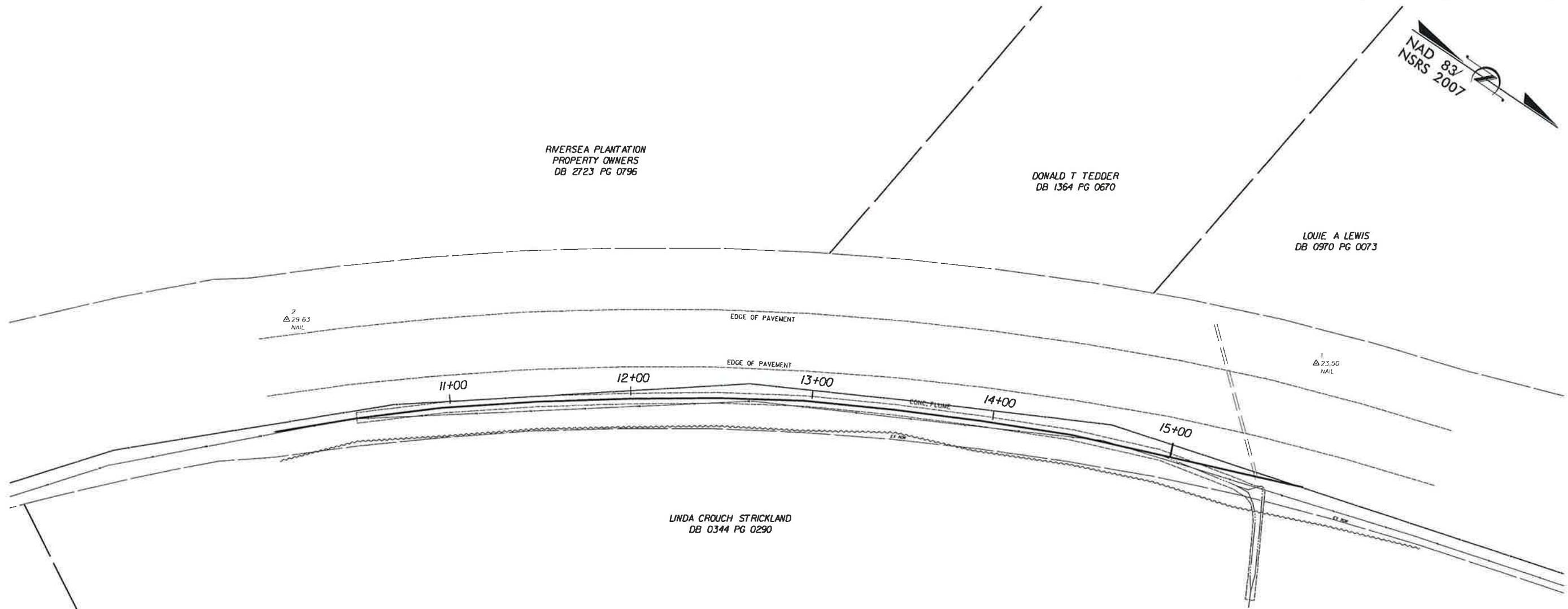
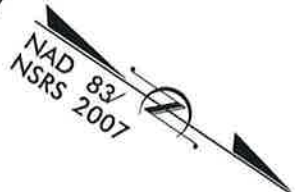
PROJECT REFERENCE NO.
R-4436CD

SHEET NO.
2B

HYDRAULICS
ENGINEER
7-21-11



WILLIAM E. LEE



| SURVEY COTROL POINTS TABLE | | | | | |
|----------------------------|-------------|----------|------------|-----------|------------------------------------|
| POINT | DESCRIPTION | NORTHING | EASTING | ELEVATION | STATION AND OFFSET (FROM -L-) |
| 1 | NAIL | 93581.86 | 2223951.56 | 29.63 | STATION 10+19.24 - OFFSET: 60.26 L |
| 2 | NAIL | 93097.73 | 2224249.20 | 23.50 | STATION 15+64.65 - OFFSET: 69.56 L |

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY NCOS FOR MONUMENT "G 161"

WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
NORTHING: 97,480.11(11) EASTING: 2,218,726.94(11)
ELEVATION: 34.02(11)

THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00010715

THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "G 161" TO -L- STATION GPS 1 IS 6,518.66'

ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

SUMMARY OF EARTHWORK

| STATION | STATION | UNCL. EXCAV. (CY) | EMBANK. + 15% (CY) | BORROW (CY) | WASTE (CY) | HIGH FLOW MEDIA (CY) | #57 STONE (TON) | CLASS 'A' RIP-RAP (TON) | PEA GRAVEL (TON) |
|-----------------|---------|-------------------------|--------------------------|----------------|---------------|----------------------------|--------------------|-------------------------------|---------------------|
| PROJECT TOTALS: | | 88 | 65 | | 23 | 45 | 11.6 | 8.5 | 2.1 |
| | | | | | | | | | |
| GRAND TOTALS: | | 88 | 65 | | 23 | 45 | 11.6 | 8.5 | 2.1 |
| | | | | | | | | | |
| SAY: | | 90 | 65 | | 25 | 45 | 12 | 9 | 3 |

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48" & UNDER)

[illegible]

NAD 83
NSRS 2007

25



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TRAFFIC CONTROL PLAN

PROJECT REFERENCE NO. **R-4436CD** SHEET NO. **TC-1**



GENERAL NOTES

THE FOLLOWING GENERAL NOTES SHALL APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

A) THE TRAFFIC CONTROL PLANS FOR THIS PROJECT CONSIST OF DETAIL DRAWINGS, STANDARD DETAIL DRAWINGS, AND ROADWAY STANDARD DRAWINGS SHOWING TRAFFIC CONTROL DEVICES TO BE USED WHERE VARIOUS TYPES OF CONSTRUCTION ACTIVITIES ARE OCCURRING ON THE PROJECT. THESE DRAWINGS ARE FOR TYPICAL SITUATIONS AND SHOULD BE ADAPTED TO THE ACTUAL FIELD CONDITIONS, SUCH AS WHEN PHYSICAL DIMENSIONS ARE NOT ATTAINABLE, OR WHEN MORE THAN ONE DRAWING IS APPLIED SIMULTANEOUSLY RESULTING IN DUPLICATE SIGNING, OR UNDESIRABLE OVERLAPPING OF DEVICES. WHEN THESE SITUATIONS ARISE, THE CONTRACTOR AT THE DIRECTION OF THE ENGINEER SHALL BE RESPONSIBLE FOR ADAPTING THE TRAFFIC CONTROL PLAN TO FIELD CONDITIONS TO PROVIDE SAFE AND EFFICIENT TRAFFIC MOVEMENT. MODIFICATIONS MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING, OR REMOVAL OF DEVICES.

TIME RESTRICTIONS

B) TRAVEL LANES ON NC-211 SHALL NOT BE CLOSED, NARROWED, OR OTHERWISE DELAYED BETWEEN THE HOURS OF 6:00 AM TO 9:30 AM AND 3:30 PM TO 7:00 PM MONDAY THROUGH FRIDAY.

C) ANY NIGHT WORK PERFORMED BY THE CONTRACTOR SHALL BE LIGHTED IN ACCORDANCE WITH NCDOT AND MUTCD STANDARDS. ALL NIGHT WORK MUST MEET THE REQUIREMENTS OF LOCAL ORDINANCES.

SHOULDER CLOSURE REQUIREMENTS

D) SHOULDER CLOSURES SHALL BE REMOVED AS SOON AS PRACTICAL AFTER WORK BEHIND THE CLOSURE IS COMPLETED OR WHEN SHOULDER CLOSURE IS NO LONGER NEEDED.

E) CONTRACTOR SHALL MAINTAIN EXISTING TRAFFIC PATTERNS AND LANE CONFIGURATIONS AT THE END OF EACH DAYS OPERATION AND DURING CONSTRUCTION INACTIVITY, EXCEPT AS OTHERWISE INDICATED IN THE PHASING PLAN.

F) WHEN SHOULDER CLOSURES ARE NOT IN EFFECT, CHANNELIZING DEVICES IN WORK AREAS SHALL BE SPACED NO GREATER THAN TWICE THE POSTED SPEED LIMIT, EXCEPT 10-FEET ON CENTER IN RADII, AND SHALL BE SET 3' OFF THE EDGE OF AN EXISTING TRAVEL LANE.

SIGNING

G) EXISTING TRAFFIC SIGNAGE SHALL BE MOVED AND OTHERWISE MAINTAINED BY THE CONTRACTOR AS APPROPRIATE DURING CONSTRUCTION.

H) ALL NECESSARY TRAFFIC CONTROL SIGNAGE SHALL BE IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

ROADWAY STANDARD DRAWINGS

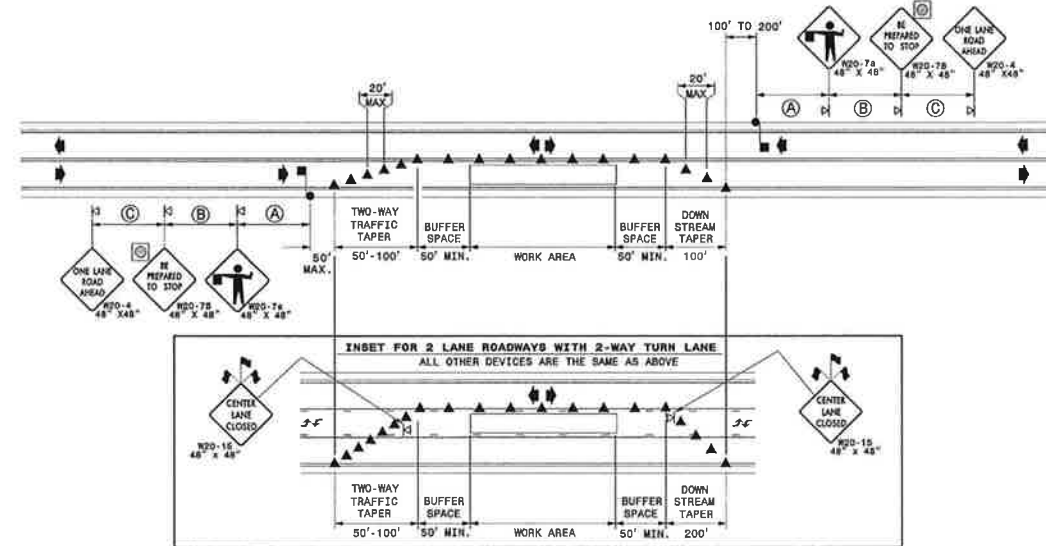
THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"- ROADWAY DESIGN UNIT-N.C. DEPARTMENT OF TRANSPORTATION -RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

| STD. NO. | TITLE |
|----------|------------------------------------|
| 1101.04 | TEMPORARY SHOULDER CLOSURES |
| 1101.05 | WORK ZONE VEHICLE ACCESSES |
| 1101.11 | TRAFFIC CONTROL PLAN DESIGN TABLES |
| 1110.01 | STATIONARY WORK ZONE SIGNS |
| 1110.02 | PORTABLE WORK ZONE SIGNS |
| 1115.01 | FLASHING ARROW PANELS |
| 1130.01 | DRUMS |

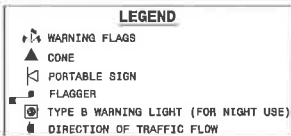
STATE OF NORTH CAROLINA
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DIVISION OF HIGHWAYS
RALEIGH, N.C.

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 7
1101.02



GENERAL NOTES



- REFER TO STD. DWG. 1101.11-SHEET 4, FOR SIGN SPACING.
- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.
- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.
- PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER. (REFER TO STD. DWG. 1101.11-SHEET 2).
- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.
- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.
- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. ACCOMPANY FLAGGERS UTILIZED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-74) PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER. WHERE INTERSECTIONS ARE SIGNALIZED, PLACE SIGNALS IN THE FLASH MODE.

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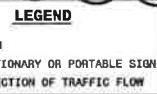
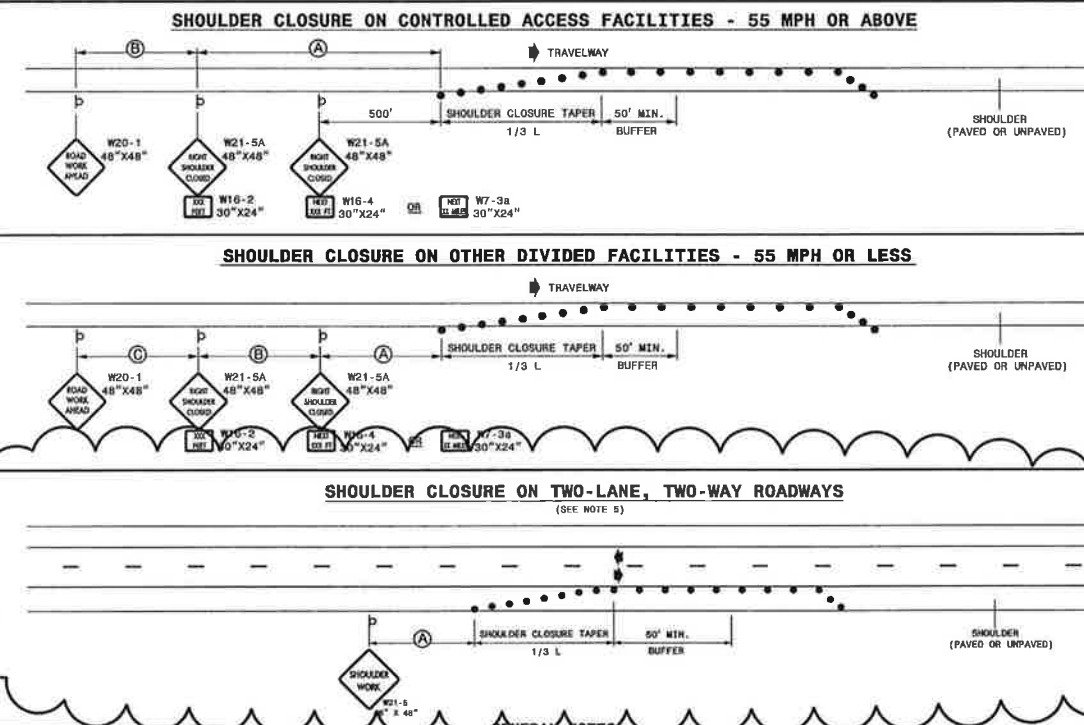
ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED

SHEET 1 OF 7
1101.02

STATE OF NORTH CAROLINA
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ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101.04



- 1- PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.
- 2- PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT.
- 3- THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.
- 4- USE STATIONARY SIGNS FOR LONG TERM OPERATIONS (LONGER THAN 3 DAYS).
- 5- REFER TO STD. 1101.11 SHEETS 1, 3, & 4, FOR "L" DISTANCE, AND SIGN SPACING.
- 5- THE TWO-LANE, TWO-WAY DRAWING MAY BE APPLIED TO UNDIVIDED, MULTI-LANE FACILITIES.

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DIVISION OF HIGHWAYS
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ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101.04

* ALTHOUGH PERMANENT SHOULDER CLOSURES ARE NOT ANTICIPATED, IF TEMPORARY SHOULDER CLOSURE(S) ARE NECESSARY FOR CONSTRUCTION TRAFFIC, THEN CONTRACTOR SHALL REFER TO NCDOT STD DTL 1101.04 AS SHOWN TO LEFT.

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